**Goldman L.R. and Harnly, M., Flattery, J., Patterson Jr., D.G., Needham, L.L. Serum Polychlorinated Dibenzo-*p*-dioxins and Polychlorinated Dibenzofurans among People Eating Contaminated Home-Produced Eggs and Beef**

We compared serum polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) among residents of two homes to levels among age- and sex-matched comparison subjects. The residents of the two homes consumed contaminated eggs and beef from animals raised at the homes. The animals had greater soil contact than those raised with conventional commercial husbandry practices. The comparison subjects were form a similar rural area, but did not consume home-produced beef and eggs. Serum levels of 2,3,7,8-substituted tetra-, penta-, and hexaCDDs and penta-, hexa- and heptaCDFs were increased between 2- and 6-fold in residents form one home; contaminated eggs and beef were consumed by residents for 2-15 years. Elevations were less for those in the other index home, where only home-produced eggs were consumed for 2 years; a 3-fold elevation of 1,2,3,7,8,9,-hexaCDD as compared to controls was most apparent. Very strong bivariate correlations among all of the 2,3,7,8 penta- and hexaCDDs/CDFs were observed. The elevations observed verify that PCDD/PCDF-contaminated food contributed to the body burden of these compounds. The blood levels among the higher exposed participants are generally higher than those observed in other studies of U.S. contaminated-fish consumers and higher than average adipose tissue levels observed in U.S. urban populations. There are sufficient animal toxicologic and human epidemiologic data to recommend that exposures be reduced. In the study area, pentachlorophenol and pentachlorophenol incineration sources have been identified, and the animal contamination and blood elevations probably reflects these sources. Soil reference values and site-specific risk assessments should include estimates of exposures to contamination in home-produced animal products. Such estimates can be verified with limited PCDD/PCDF sampling of animals and humans. Key words: beef, chicken eggs, dietary intake, food contamination, human blood levels, polychlorinated dibenzofurans, polychlorinated dibenzo-*p*-dioxins. *Environ Health Perspect* 108:13-19 (2000)